## AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of interleaving speech data communicated with a particular mobile station over a plurality of frames, comprising:

receiving, by a system from the particular mobile station in a communications session over a wireless channel, a first set of the speech data, wherein the first set of speech data has been interleaved by the particular mobile station according to a first algorithm over a first set of plural frames, wherein a first frame in the first set is spaced apart from a second frame in the first set by at least one other frame not in the first set; and

receiving, by the system from the particular mobile station in the communications session over the wireless channel, a second set of the speech data, wherein the second set of speech data has been interleaved by the particular mobile station according to a second, different algorithm over a second set of plural frames.

2. (Cancelled)

3. (Previously Presented) The method of claim 1, wherein the speech data interleaved according to the first or second algorithm comprises speech data interleaved over frames of a multiframe.

4. (Original) The method of claim 3, wherein interleaving over frames of the multiframe comprises interleaving over a General Packet Radio Service multiframe.

5. (Previously Presented) A method of interleaving data over a plurality frames, comprising:

interleaving the data according to a first algorithm over plural frames communicated over a wireless channel for a first set of data; and

interleaving the data according to a second algorithm over plural frames communicated over the wireless channel for a second set of data,

wherein interleaving the data according to the first or second algorithm comprises interleaving over frames of a multiframe,

wherein the multiframe comprises plural blocks, each block having four frames, each frame containing plural bursts, and the data is carried in data frame N starting in block B(x), and wherein interleaving the data frame N according to the first and second algorithms comprises interleaving the data frame N over blocks B(x + 2k) and B(x + 2k + 2), where k = INT(N/2).

6. (Original) The method of claim 5, wherein interleaving the data according to the first algorithm comprises interleaving the data frame N over bursts in the last three frames in block B(x + 2k) and the first frame in block B(x + 2k + 2), if N is even.

7. (Original) The method of claim 6, wherein interleaving the data according to the second algorithm comprises interleaving the data frame N over bursts in the last frame in block B(x +2k) and the first three frames in block B(x + 2k + 2), if N is odd.

8. (Original) The method of claim 7, wherein interleaving the data according to the first and second algorithms comprises interleaving speech data.

9. (Original) The method of claim 8, wherein interleaving the speech data comprises interleaving speech data of a half-rate mobile station.

10. (Original) The method of claim 7, further comprising:

receiving an end-of-data indicating frame to indicate that the data frame N is the last data frame; and

interleaving the end-of-data indicating frame over bursts in the last frame in block B(x + 2k) and the first two frames of block (Bx + 2k + 2), if M is even.

11. (Original) The method of claim 10, further comprising repeating the end-of-data indicating frame over bursts in the last two frames of block B(x +2k + 2).

12. (Original) The method of claim 10, further comprising interleaving the end-of-data indicating frame over bursts in the last three frames of block B(x + 2k + 2), if M is odd.

13. (Previously Presented) The method of claim 3, wherein the multiframe comprises plural blocks and each block comprises plural frames, each frame containing plural bursts, the speech data being carried in data frames interleaved over bursts in the plural frames, the method further comprising:

receiving an end-of-data indicating frame to indicate that a data frame is the last data frame, wherein the end-of-data indicating frame is interleaved according to predetermined algorithms,

wherein the data frames interleaved according to the first and second algorithms and the end-of-data indicating frame interleaved according to the predetermined algorithms enable the end-of-data indicating frame to end within the same block carrying the last data frame.

14. (Previously Presented) A method of interleaving data over a plurality frames, comprising:

interleaving the data according to a first algorithm over plural frames communicated over a wireless channel for a first set of data; and

interleaving the data according to a second algorithm over plural frames communicated over the wireless channel for a second set of data,

wherein interleaving the data according to the first or second algorithm comprises interleaving over frames of a multiframe,

wherein the multiframe comprises plural blocks and each block comprises plural frames, each frame containing plural bursts, the data being carried in data frames interleaved over bursts in the plural frames, the method further comprising:

receiving an end-of-data indicating frame to indicate that a data frame is the last data frame; and

interleaving the end-of-data indicating frame according to at least one predetermined algorithm,

wherein interleaving the data frames according to the first and second algorithms and the end-of-data indicating frame according to the at least one predetermined algorithm enables the end-of-data indicating frame to end within the same block carrying the last data frame,

wherein the last data frame is data frame M starting in block B(x), wherein, if M is odd, interleaving the data frame M comprises interleaving the data frame M over bursts in the last frame in block B(x) and the first three frames of B(x + 2), and wherein interleaving the end-of-data indicating frame comprises interleaving the end-of-data indicating frame over bursts in the last three frames of block B(x + 2).

15. (Original) The method of claim 14, wherein, if M is even, interleaving the data frame M comprises interleaving the data frame M over bursts in the last three frames in block B(x) and first frame in block B(x + 2), and interleaving the end-of-data indicating frame comprises interleaving the end-of-data indicating frame over bursts in the last frame in block B(x) and first two frames in block B(x + 2).

16. (Original) The method of claim 15, wherein the end-of-data indicating frame comprises a SID_FIRST frame according to a General Packet Radio Service protocol.

17. (Cancelled)

18. (Previously Presented) The system of claim 38, wherein the first and second data frames comprise respective first and second speech frames.

19. (Previously Presented) The system of claim 38, wherein each data frame is interleaved over four bursts.

20. (Previously Presented) A system for communicating over a wireless channel in a mobile communications network, comprising:

an interface adapted to receive traffic data frames from a half-rate mobile station; and

a controller adapted to process a first data frame interleaved over plural bursts according to a first algorithm and to process a second data frame interleaved over plural bursts according to a second algorithm,

wherein the bursts are part of a multiframe, the multiframe comprising plural blocks, each block comprising four bursts, and wherein data frames I, I = 0 to M, are received starting in block B(x), the controller adapted to interleave data frame I over blocks B(x + 2k) and B(x + 2k + 2), where k = INT(I/2).

21. (Original) The system of claim 20, wherein the controller is adapted to:

for I being even, interleave traffic data frame I over the last three bursts in block B(x + 2k) and the first burst in block B(x + 2k + 2); and

for I being odd, interleave traffic data frame I over the last three bursts in block B(x + 2k) and the first burst in block B(x + 2k + 2).

22. (Original) The system of claim 21, wherein the interface is adapted to further receive an end-of-data indicating frame, the end-of-data indicating frame interleaved a first way if M is even and a second way if M is odd.

23. (Original) The system of claim 22, wherein the controller is adapted to:

for M being even, interleave the end-of-data indicating frame over the last burst in block B(x + 2k) and the first two bursts in block B(x + 2k + 2); and

for M being odd, interleave the end-of-data indicating frame over the last three bursts of B(x + 2k + 2).

24. (Original) The system of claim 23, wherein the end-of-data indicating frame comprises a SID_FIRST frame according to a General Packet Radio Service protocol.

25. (Original) The system of claim 23, wherein the end-of-data indicating frame indicates that discontinuous transmission mode is starting.

26. (Original) The system of claim 23, wherein the traffic data frames are carried in a wireless channel portion, the interface adapted to receive traffic data frames from another mobile station in block B(x + 2k + 4).

27. (Original) The system of claim 26, wherein the traffic data frames from the half-rate mobile station comprises speech data.

28. (Original) The system of claim 27, wherein the traffic data frames from the other mobile station comprises another type of data.

29. (Original) The system of claim 27, wherein the other mobile station comprises a full-rate mobile station.

30. (Cancelled)

31. (Previously Presented) The article of claim 39, wherein the instructions when executed cause the system to:

receive speech traffic from the first mobile station over the wireless channel portion.

32. (Original) The article of claim 31, wherein the instructions when executed cause the system to receive another type of traffic from the second mobile station.

33. (Previously Presented) The article of claim 39, wherein the instructions when executed cause the system to interleave a first traffic frame from the first mobile station over plural bursts according to a first algorithm and to interleave a second traffic frame from the first mobile station over plural bursts according to a second algorithm.

34. (Currently Amended) An article comprising at least one storage medium containing instructions that when executed cause a mobile station to:

interleave a first speech traffic frame $n$ in a communications session with a radio network over plural bursts according to a first algorithm, wherein $n$ is an even number;

interleave a second speech traffic frame $n+1$ in the communications session with the radio network over plural bursts according to a second algorithm, wherein $n+1$ is an odd number, wherein the first speech traffic frame $n$ is interleaved according to the first algorithm in response to $n$ being an even number, and the second speech traffic frame $n+1$ is interleaved according to the second algorithm in response to $n+1$ being an odd number; and

cause the first and second interleaved speech traffic frames to be transmitted to the radio network in the communications session.

35. (Cancelled)

36. (Currently Amended) A method of interleaving speech data over a plurality of frames, comprising:

interleaving, by a half-rate mobile station, a first set of the speech data according to a first algorithm over a first set of plural frames for communication over a wireless channel in a communications session, wherein a first frame in the first set is spaced apart from a second frame in the first set by at least one other frame not in the first set;

interleaving, by the half-rate mobile station, a second set of the speech data according to a second, different algorithm over a second set of plural frames for communication over the wireless channel in the communications session; and

transmitting, by the half-rate mobile station, the interleaved first and second sets of speech data to a radio network over the wireless channel in the communications ~~sesssion~~ session.

37. (Previously Presented) The system of claim 38, wherein the bursts are part of a multiframe, the multiframe having plural blocks,

wherein the first data frame n is interleaved according to the first algorithm by interleaving the first data frame n in bursts of two different blocks, the two different blocks selected based on n being an even number, and

wherein the second data frame n + 1 is interleaved according to the second algorithm by interleaving the second data frame n + 1 in bursts of two different blocks, the two different blocks selected based on n + 1 being an odd number.

38. (Previously Presented) A system for communicating over a wireless channel in a mobile communications network, comprising:

an interface adapted to receive traffic data frames from a half-rate mobile station; and

a controller adapted to process a first data frame n, n being an even number, from the half-rate mobile station interleaved over plural bursts according to a first algorithm and to process a second data frame n + 1, n + 1 being an odd number, from the half-rate mobile station interleaved over plural bursts according to a second algorithm,

wherein the first data frame n is interleaved according to the first algorithm in response to n being an even number, and the second data frame is interleaved according to the second algorithm in response to n + 1 being an odd number.

39. (Previously Presented) An article comprising at least one storage medium containing instructions that when executed cause a system to:

receive traffic over a wireless channel portion from a first mobile station involved in half-rate communication;

detect that the first mobile station has entered discontinuous transmission mode;

in response to detecting that the first mobile station has entered discontinuous transmission mode, re-assign the wireless channel portion to a second mobile station to enable multiplexing of traffic from the second mobile station onto the wireless channel portion while the first mobile station is in discontinuous transmission mode;

receive a request from the first mobile station to re-acquire the wireless channel portion, the request transmitted by the first mobile station in response to the first mobile station exiting discontinuous transmission mode; and

send an assignment message to the first mobile station to assign the wireless channel portion in response to the request.

40. (Previously Presented) The article of claim 34, wherein the mobile station comprises a half-rate mobile station.

41. (Previously Presented) A system for use in a mobile communications network, comprising:

a wireless interface adapted to receive traffic over a wireless channel portion from a first mobile station involved in half-rate communications; and

a controller adapted to receive an indication that the first mobile station has entered discontinuous transmission mode and, in response to receiving the indication that the first mobile station has entered discontinuous transmission mode, to multiplex traffic from a second mobile station onto the wireless channel portion while the first mobile station is in discontinuous transmission mode,

wherein the controller is adapted to further:

receive a request from the first mobile station to re-acquire the wireless channel portion, the request transmitted by the first mobile station in response to the first mobile station exiting discontinuous transmission mode; and

send an assignment message to the first mobile station to assign the wireless channel portion in response to the request.